Introduction

The NOAA Program Review

In an e-mail to all NOAA employees dated February 1, 2002, Vice Admiral Conrad C. Lautenbacher, Jr. USN (Ret.), Under Secretary of Commerce for Oceans and Atmosphere, announced "a review of the overall NOAA organization and programs," to be completed in three months (see Appendix Intro-1). The *NOAA Program Review* was initiated to determine if NOAA is best positioned to accomplish its missions successfully and efficiently now, and in the future. Specifically, employees were asked to respond to the following questions:

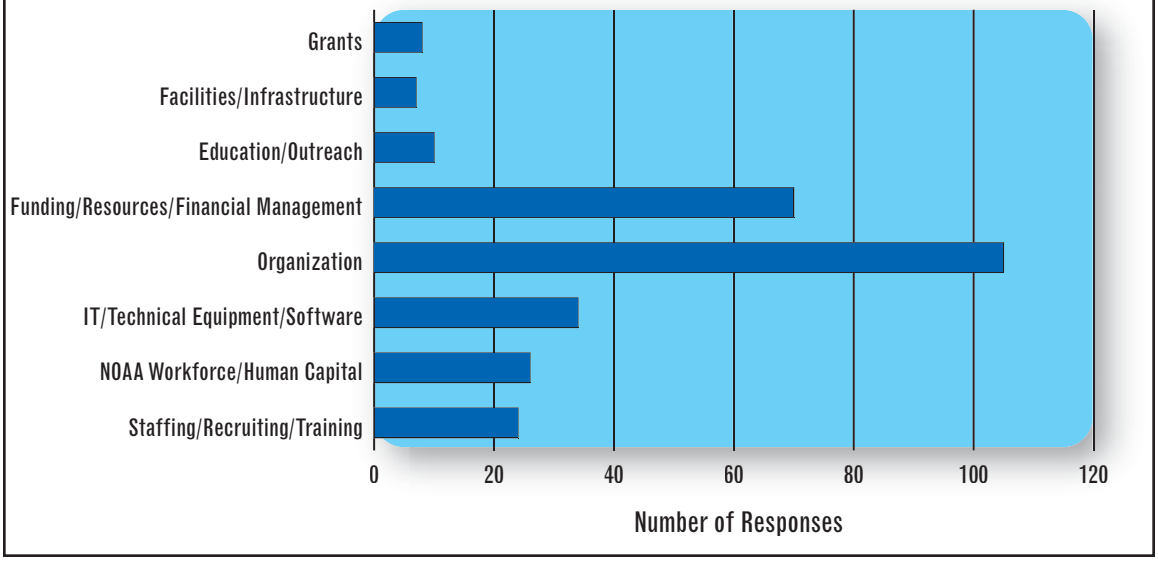
1. Is the NOAA organization aligned with its current missions and future missions? If not, what are your recommendations for change, near term and/or long term?

2. Are there significant imbalances in resources versus requirements? If so, what are your recommendations for change, near term and/or long term?

3. Are we being as efficient as possible in meeting our current and future mission tasking? If not, what are your recommendations for change near and/or long term?

The request for employee input resulted in a total of 243 individual messages (some of which addressed more that one topic), containing close to 500 recommendations. Though employees submitted their feedback in accordance with the three questions above, there were patterns to their responses, forming a common set of topics on which the Program Review Team (PRT) focused. Employee responses were sorted in accordance with these topics, resulting in the distribution of feedback shown in Figure Intro-1 (NOTE: some messages addressed more than one topic, therefore, the total of all responses reflected on

Figure Intro-1: NOAA Employee E-mail Feedback



the bar graph is 284 instead of 243). Employee messages were sent to a NOAA internal review mailbox, with access limited to the staff supporting the Review, thereby ensuring anonymity of respondents.

Process for the Review

The NOAA Administrator initiated the first NOAA Program Review Team meeting on January 28, 2002. He provided guidance for conducting the review, including these highlights:

- Stay strategic, doing as much as possible in three months
- Attempt to look at the full picture when addressing issues
- Engage in honest and open exchanges, striving for consensus
- Recommendations can include the need for further study
- Consider the efforts of the Review as "evolutionary" vs. "revolutionary"

The PRT was composed of a total of sixteen members, including representatives from each NOAA line and staff office, chaired by the Deputy Under Secretary, and supported by participants in NOAA's Leadership Competencies Development Program and other staff office personnel. A professional consultant was retained to design and facilitate a constructive process for identifying issues and opportunities, debating a range of possible solutions, and refining ideas into a specific set of recommendations. The Program Review Team met weekly for two and a half months.

Staff to the NOAA Program Review distilled feedback from NOAA employees' e-mails into short briefings on each topic. Each briefing presented a strategic overview, issues and opportunities, employee recommendations, and background material. The PRT also conducted its own "mini assessment" and referenced current Administration initiatives and "best practices" in government as templates for strategy building. The Program Review Team focused on a particular set of topics for each meeting (see Appendix Intro-2 for PRT meeting agendas).

In debating and developing recommendations for a given topic, the PRT worked both in small groups and as a whole. In determining which recommendations to include in this report, the PRT used a voting process. Unless otherwise noted, recommendations included in this report represent a consensus vote of the PRT. In cases where consensus was not reached, dissenting votes are noted, and PRT members were invited to submit minority and additional opinions, which are included in Appendix Intro-5 of this report.

It should be noted that the recommendations in this report represent proposals developed by the NOAA Program Review Team. As such, the PRT recognizes that some of the proposed changes could require Congressional action, approval by the Office of Management and Budget or Department of Commerce, or other administrative procedures.

Responding to the Three Program Review Questions

The PRT used the Administrator's three questions and employee responses as the foundation for our deliberations and recommendations. While the task of the Review was both complex and compressed, the sixty-eight recommendations developed by the PRT are fairly straightforward and, in some cases, "common sense management." In many cases, the recommendations reaffirm or strengthen improvement efforts already underway. The 68 recommendations are listed sequentially in bold text throughout this report.

This report is organized by the common themes and subjects generated by employee feedback, incorporating PRT input and discussion. Each chapter includes a brief description of the topic, a summary of employee input, and corresponding recommendations of the PRT. Broader discussions of each topic are

included in the Appendices, ordered in the same sequence as the chapters of the report. Though the report follows a topical outline, the PRT relates these topics to the three core questions for the NOAA Program Review. Based on the work of the PRT and employee feedback, short answers to the these questions are as follows:

1. Is the NOAA organization aligned with its current missions and future missions? If not, what are your recommendations for change, near term and/or long term?

A majority of the responses received from employees dealt with some form of organizational change. Therefore, much of the content of this report revolves around issues associated with this question. After much deliberation and full discussion, the PRT did not recommend an immediate reorganization of NOAA's line offices. In the near term, the PRT proposes using matrix management principles to improve coordination of programs across the Agency. Within the next five years, the PRT recommends alignment of planning, programming, and budgeting along thematic as opposed to organizational lines. In the long term, the PRT proposes realigning the Agency along functional lines to facilitate NOAA's future mission. The PRT also identified some immediate and near term opportunities for structural changes and process improvements.

NOAA Current and Future Missions

The PRT concluded that NOAA is generally doing a good job in executing current missions and in providing relevant products and services to the Nation.

> **NOAA's Current Mission:**
>
> To describe and predict changes in the Earth's environment, and conserve and manage wisely the Nation's coastal and marine resources to ensure sustainable economic opportunities.

This Report includes recommendations to improve organizational alignment with NOAA's *current missions* by formalizing cross-program integration, infusing standard corporate business practices, and enhancing support functions such as research, administrative services, facilities, budget, and planning. Targeted structure changes are recommended to reduce duplication of effort, provide better alignment of missions, and fill voids in NOAA's corporate capabilities.

In considering NOAA's *future missions,* the PRT envisions the Agency evolving toward a suite of products and services based on discrete functions, with clear implications for the future organizational structure. The PRT suggests that NOAA's future missions build on current capabilities to provide the Nation with integrated environmental analysis and prediction; environmental management and service; a global to local interdisciplinary observing system; ocean discovery; and environmental literacy. As a significant outcome of the Review, the PRT offers a picture of a future NOAA, consisting of three major components: 1) Environmental Observations 2) Environmental Analysis, Prediction and Services, and 3) Environmental Stewardship and Management. These are underpinned by a solid foundation of support

functions and a strong NOAA headquarters. This future depends on our ability to move from the existing line office structure to one that reflects the interdisciplinary and multidisciplinary nature of the challenges facing society, one that builds on our core strengths in forecasting, environmental observations and stewardship, and one that identifies and overcomes the limitations of the current organization.

> "NOAA is the oceanographic leading, cutting-edge agency in the world ..."
>
> Senator Judd Gregg
> NOAA Appropriations Hearing, March 19, 2002

The PRT recognizes the importance of establishing a clear strategic direction for the Agency and calls on NOAA leadership, in collaboration with constituents, to develop a new, frequently updated, strategic plan. Partnerships at all levels are critical to the accomplishment of NOAA's mission. Particular focus on cross-agency relationships and how to more effectively engage with NOAA's Federal partners is reflected in a discussion of coordinating across the Federal spectrum.

Building a "Corporate" NOAA

Highly successful, mission-oriented private and public organizations have a strong corporate identity. The PRT observes that this is largely absent from NOAA along with a common, agency-wide business management system. The centerpiece to improving our ability to meet current and future missions is the development of a corporate NOAA identity.

The PRT offers a range of strategic management enhancements to build a corporate NOAA, which can be accomplished predominantly through new or improved business processes and management practices. These enhancements consist of an ongoing series of linked processes for establishing a vision, setting priorities, formulating requirements, developing plans, and completing programming, budgeting, and evaluation. Recommendations outline the pieces of a strategic management process, including strategic planning, corporate decision making through the NOAA Executive Council and NOAA Executive Panel (formalized under VADM Lautenbacher's leadership), supporting committees, improved processes for planning, budgeting and evaluation, formalized matrix management, and a requirements-based management process.

Toward A "New" NOAA

In addition to better corporate practice, the report includes several recommendations to better align NOAA's capabilities to achieve our missions. For example, the PRT recommends a stronger NOAA Headquarters with a new Assistant Administrator for Program Planning and Integration, who will be responsible for delivering on NOAA's cross-cutting programs such as climate and ecosystem prediction, which need to transcend current line office strictures to flourish. Utilizing a matrix management approach, program managers will be empowered with funds, staffed by teams with the necessary talent, and provided with the direction to effectively execute cross-cutting programs. Additionally, restructuring the NOAA budget along cross-cutting programs instead of organizational lines will foster horizontal integration. This programmatic focus is typical of how most Federal agencies conduct business. Funding for these cross-cuts would be allocated to each line office, but administered and monitored by the program manager.

A coordinated "one agency" approach is crucial to accomplishing NOAA's mission. This report calls for an examination of roles and responsibilities between headquarters and line office counterparts in mission support functions. Better alignment of laboratories and consolidation of observing systems also will support a more integrated and efficient NOAA.

Science is central to NOAA missions. It is the foundation to sound decision making. This report includes suggestions to provide a stronger scientific foundation for NOAA's services, including improved coordination and oversight of research activities. Increasing NOAA's commitment to competitive research is a new policy proposal. The need to leverage partnerships at all levels is highlighted.

2. Are there significant imbalances in resources versus requirements? If so, what are your recommendations for change, near term and/or long term?

NOAA has many examples where there are inadequate resources to meet our mission (see Appendix Intro-4). NOAA needs to place a priority on these investments in the future and make a strong case to the Administration and the Congress that continued deferral of these items has a significant impact on NOAA's ability to deliver a number of basic and critical services.

Requirements-Based Management Process

The PRT finds that NOAA does not always have the detailed programmatic and financial analyses necessary to fully describe and justify imbalances in resources versus requirements. The PRT recognizes that NOAA may be unable to fully document all such cases, simply because specific program requirements have not been developed. The PRT recommends the development of a requirements-based management process (see Chapter 2, section F). An intra-agency working group can develop this process, building on the existing NOAA process for systems acquisition to develop a new NOAA Administrative Order (NAO). The requirements-based management process needs to be managed centrally; the PRT recommends the establishment of a program analysis and evaluation function, to be located in the NOAA Headquarters structure as a staff office or in the Office of Finance and Administration.

When fully developed, this process will tighten the linkage between program needs and available resources, leading to improved information for evaluating opportunities, establishing priorities, and making sound programming decisions. In the long term, the PRT envisions the requirements-based management process being fully integrated with planning, programming and budgeting processes, ensuring an "end-to-end" system for managing NOAA's current and future mission tasking.

The President's Management Agenda, August 2001
(for additional detail, see summary in Appendix Intro-3)

"Government likes to begin things—to declare grand new programs and causes. But good beginnings are not the measure of success. What matters in the end is completion. Performance. Results. Not just making promises, but making good on promises. In my Administration, that will be the standard from the farthest regional office of government to the highest office in the land."

George W. Bush

Improving Government Performance

The President's vision for government reform is guided by three principles. Government should be:

1. Citizen-centered, not bureaucracy-centered
2. Results-oriented
3. Market-based, actively promoting rather than stifling innovation through competition

The Agenda includes five government-wide goals:

1. Strategic Management of Human Capital
2. Competitive Sourcing
3. Improved Financial Performance
4. Expanded Electronic Government
5. Budget and Performance Integration

3. Are we being as efficient as possible in meeting our current and future mission tasking? If not, what are your recommendations for change near and/or long term?

NOAA employees and the PRT identified several opportunities to improve efficiency in meeting our current and future mission tasking. In particular, there are a number of business processes that can greatly improve the ways in which NOAA manages corporate functions, including planning, budgeting, and performance evaluation.

Support for NOAA's Missions

Many supporting systems, structures and processes emerge as critical to current and future mission accomplishment. Recommendations for improving NOAA infrastructure and supporting systems (e.g., facilities, safety and compliance, ships/aircraft, information technology, grants) for the near and long term have been identified. The PRT acknowledges that NOAA has not traditionally done the best it can do to address infrastructure needs.

The PRT finds that NOAA should improve public understanding of the oceanic and atmospheric issues we work on. The PRT recommends a corporate commitment to education and outreach through an Office of Education and Sustainable Development at NOAA Headquarters, and by leveraging NOAA's regional presence through a coordinated and integrated effort, starting at several pilot locations.

Developing and Sustaining the NOAA Workforce

Efficient mission delivery is highly dependent on a team of skilled and motivated NOAA employees. The PRT offers an array of recommendations for improving NOAA's ability to attract and retain a competent and productive workforce. Recommendations include new recruitment and retention strategies, a commitment to succession planning, and expanding the corporate culture through rotational assignments. Finally, a financial commitment to a NOAA corporate training program is recommended.

Final Report, 2002 SFA Survey Feedback Action, Total NOAA

Highlights of NOAA's Key Strengths:

- Employees have pride in NOAA and confidence in NOAA's future, they understand NOAA Line/Staff Office mission, vision and values
- NOAA has a professionally competent and ethical work force
- NOAA employees understand who their external customers are and their expectations; they use suggestions from them to improve

Highlights of NOAA's Key Opportunities:

- Leadership, especially at the Line and Staff Office level (but also of NOAA overall)
- Minimizing Line/Staff Office "corporate politics," making employees feel part of NOAA, retaining of the best employees and promoting a clear corporate culture

Prospects for the Future

NOAA is a highly respected agency with a proud past and a promising future. By infusing a set of corporate business practices in the near term and focusing and strengthening capabilities in the long term, NOAA will improve mission delivery. Pursuing the recommendations of this report should lead to a more integrated organization, delivering an enhanced suite of products and services in environmental prediction, analysis, and stewardship.

Chapter 1
NOAA's Current And Future Missions

Overview

The Program Review Team examined NOAA's current set of core missions based on existing Agency and line office strategic planning documents. In addition, each of the line offices outlined possible future directions. This chapter examines where NOAA is currently, where the PRT envisions it should go in the future, how we plan to get there, what a future organizational alignment might look like, and how NOAA should work with other Federal agencies. Subchapters include:

A. NOAA's Current Missions
B. NOAA's Future Missions
C. Aligning NOAA with the Future
D. Strategic Planning
E. Cross-agency relationships

Highlights of NOAA Employee Feedback:

- NOAA's mission of environmental monitoring, assessment, prediction and stewardship is right, but some of NOAA's programs are not optimally aligned with this mission.
- NOAA does not do a particularly good job at setting priorities among its missions.
- NOAA should avoid "mission creep" and not undertake activities that are not tied to agency priorities or initiate new programs at the expense of core missions.
- NOAA needs to work closely with other agencies to maximize coordination and minimize unnecessary overlap.
- Where there is joint responsibility for a program with another agency, the collaboration should be made explicit through appropriate agreements.
- NOAA should continue to review its activities and decide what should be outsourced to the private sector.

A. NOAA's Current Missions–Where We Are Now

NOAA is a large, complex agency with multiple missions and programs guided by Congressional mandates, authorizations, and appropriations. NOAA's mission is:

To describe and predict changes in the Earth's environment, and conserve and manage wisely the Nation's coastal and marine resources to ensure sustainable economic opportunities.

However, many employee comments indicated a lack of clarity or focus for NOAA's mission. Both the employees and PRT members suggested that NOAA should improve the way it sets priorities and allocates resources. Fundamentally, we need to have a corporate consensus on our core missions and core competencies, and we need to clearly identify what we should be doing before determining how best to do it. NOAA's current and proposed future missions are contained in Appendix 1-1.

In its *1998 Recommendations for the Future of the National Oceanic and Atmospheric Administration,* the National Association of State Universities and Land Grant Colleges recommended that "NOAA should review all of its activities, identifying those that are unique, where it has the greatest competence, and where it has a clear statutory charge. Activities that do not pass the test of uniqueness, competency, and statutory charge should be transferred to other government agencies, or downsized and ultimately eliminated, or phased over to the private sector." In keeping with this advice, the PRT makes the following recommendations:

1. **The PRT recommends that NOAA maintain an accurate, detailed *inventory* of all NOAA legislation and mandates. An initial inventory of such legislation and mandates, including those things NOAA "shall" or "is authorized" to do was drafted for the PRT by the Office of General Counsel (see Appendix 1-2).**

2. **The PRT recommends that an *analysis* of NOAA legislation and mandates, including a comparison between the inventory and NOAA's list of core missions, be conducted by the Office of General Counsel no later than July 15, 2002. This analysis will provide NOAA leadership with a solid basis for critical mission assessment and evaluation, providing key elements for the proposed NOAA Strategic Management Process (see Chapter 2, section A).**

B. NOAA's Future Missions–Where We Want To Go

The PRT developed a series of possible future missions, including opportunities for NOAA to strengthen current capabilities and expand into emerging growth areas:

3. **The PRT recommends that we build on our current programs and talents to remain the premier oceanic and atmospheric science, service and stewardship agency for America and the World. NOAA will carry out these missions innovatively in partnership with other nations, other Federal, state and local agencies, the private sector and academia.**

   A. Integrated Environmental Analysis and Prediction–we will build on our core competencies in environmental assessment and prediction to develop an integrated environmental analysis and forecasting system. NOAA will translate weather, climate, air quality, hydrology and ocean information into economic, ecological, human and environmental health assessments and predictions.

   B. Environmental Management–we will build on our core competencies in environmental stewardship to understand, value, conserve and manage natural systems. NOAA will implement ecosystem-based management, recover and protect habitats and species with emphasis on biodiversity, and determine the value of ecosystem goods and services.

   C. Global to Local Interdisciplinary Observing System–we will build on our core competencies in environmental observations to develop the required global to local interdisciplinary observing system. NOAA will define requirements, standards, and

data management strategies, validate and integrate observations and models, foster national and international partnerships and provide access to diverse data sets on demand.

D. Environmental Service–we will build on our core competencies in environmental services to enable a safe, efficient, and environmentally sound aviation, marine and intermodal transport system, supported by integrated weather, climate, air quality, hydrology and ocean forecasts.

E. Ocean Discovery–we will build on our core competencies in undersea technology to explore and characterize the ocean depths to guide the sustainable use of marine resources and the environment.

F. Environmental Literacy–we will build on our core environmental competencies to establish and sustain an environmental literacy program to educate present and future generations to improve the public's response to natural hazards, to aid state and local management of natural resources, and to help the public adapt, respond and mitigate environmental change.

In light of both the core and future missions described above, the PRT discussed the need to share these proposals and further refine them based on additional feedback as follows:

4. **The PRT recommends that we refine our core missions and develop future mission statements based on the draft core and future missions developed by the PRT. Future missions should be vetted with NOAA's constituents, partners, and stakeholders. Both core and future missions should be used as part of the new NOAA Strategic Management Process (see Chapter 2, section A), including development of the new NOAA strategic plan.**

C. Aligning NOAA With The Future

As discussed in Chapter 3, the PRT debated a number of possible options for organizational structure. In particular, the Team discussed whether or not to propose a series of stages, whereby NOAA would progressively modify the existing organization towards a future design. As part of this discussion, the PRT debated an "interim" organizational structure. It was generally agreed, however, that NOAA should identify where we ultimately want to go and move toward that future structure (as opposed to taking a number of interim steps). Therefore, based on the future missions identified above, the PRT developed a future vision for the Agency as represented by Figure 1.1 on the following page.

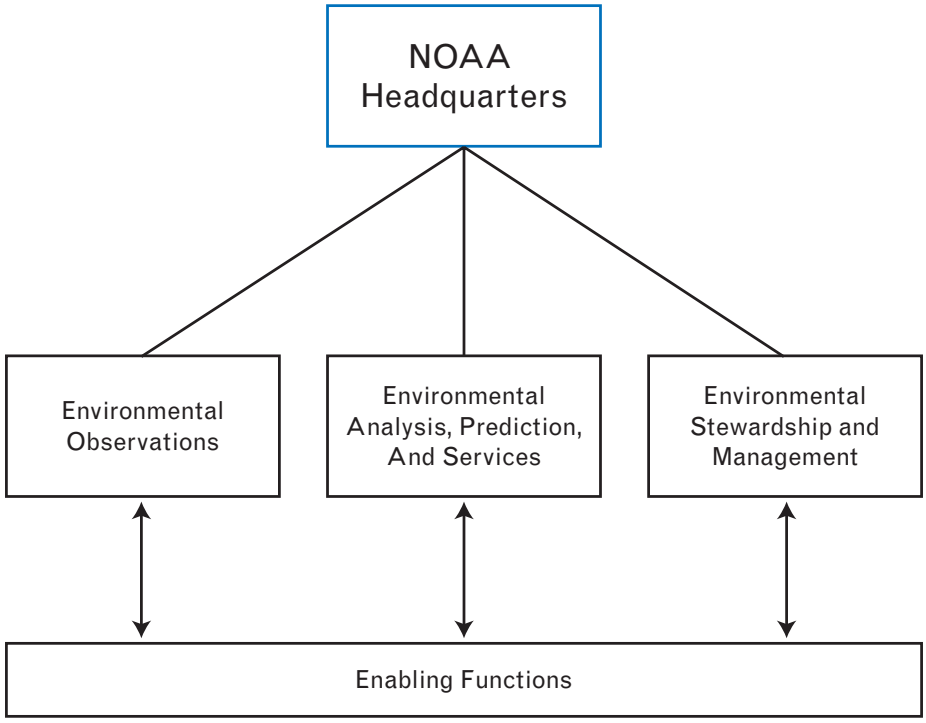
5. **The PRT recommends a future NOAA structure to align with future missions over the next five years and beyond. Figure 1.1 reflects a depiction of the NOAA organization of the future.**

Other PRT recommendations move NOAA toward this future organization, including strengthening the headquarters function, consolidating planning and acquisition of observing systems, and realigning the budget process along cross-cutting strategic themes.

D. Strategic Planning–How We Plan To Get There

In order to accomplish NOAA's core mission and plan for the future, it is imperative that we have a detailed road map describing not only where we are and where we want to go, but how we plan to get

Figure 1.1: Vision for A Future NOAA 2007 and Beyond



there. NOAA's existing strategic plan was originally developed in 1995. Though it included a vision forward to 2005, it has not been significantly modified or updated. This initial NOAA Strategic Plan received accolades as a pilot effort under the Government Performance and Results Act and has served NOAA well. However, given the many changes that have occurred since then, the PRT believes it is critical that a new plan be developed as soon as possible.

6. **The PRT recommends that NOAA immediately embark on developing a new strategic plan for the five-year period 2003–2008. The new strategic plan should:**
   - **A. Be succinct and easy to read**
   - **B. Be available on-line and include "multi-media" formats**
   - **C. Include a flexible, "rolling horizon," as opposed to having a limited five year span**
   - **D. Reflect the external and internal environment, including trends, the economy, political realities, mandates and forecasts**

In addition to a new strategic plan, the PRT discussed the need for a tight linkage between plan goals, setting priorities, and measuring performance.

7. **The PRT recommends that the NOAA Executive Council annually establish clear priorities for program implementation.**

8. **The PRT recommends that NOAA improve development of performance measures, including outcome-based measures closely tied to agency missions, and mechanisms for gauging program success (based on formal customer feedback).**

All of these strategic planning activities should be given high priority since they serve as the basis for all of NOAA's plans, programs, and budgets. A clear understanding of NOAA's core missions and competen-

cies, linked to agreed-upon strategic goals and results-based objectives, will provide a solid foundation for building and implementing Agency requirements, plans, and strategic partnerships.

E. Cross-Agency Relationships–Coordinating Across the Federal Spectrum

The PRT spent considerable time discussing NOAA core missions and relationships with other Federal agencies, including areas where missions may overlap. The PRT notes that NOAA currently performs $218 million in reimbursable work on behalf of other agencies. While this often represents NOAA focusing its expertise on national issues, at times it has led to NOAA expanding its missions and workload. This has become a significant problem in cases where external entities have significantly reduced or discontinued purchase of research and services. Several NOAA organizations have experienced severe resource constraints when external funding disappeared.

The PRT finds that NOAA should work in collaboration with other agencies and has identified instances in which external funding has bolstered core competencies and programs. However, the PRT finds that reimbursable efforts should be managed to ensure that they do not lead to funding shortfalls which impact other NOAA core programs.

9. The PRT recommends that NOAA follow criteria for interagency and reimbursable agreements. Assistant Administrators should ensure agreements:

- **A. Support NOAA core missions and requirements**
- **B. Produce a product or service that will benefit NOAA**
- **C. Not compete with the private sector**
- **D. Optimize the capabilities of other agencies**
- **E. Represent the best use of NOAA office/laboratory personnel and facilities**
- **F. Use permanent full time equivalents (FTEs) only for reimbursable agreements that will last for more than three years–otherwise term FTEs should be used.**

10. The PRT recommends that NOAA also adopt other reforms to improve cross-agency relationships:

- **A. Agency Coordinators should be identified to serve as designated focal points for each agency with which NOAA has agreements.**
- **B. Reviews of significant interagency agreements and activities should be conducted by NOAA management on an annual basis.**

Chapter 2
Building A "Corporate" NOAA

Overview

Created more than three decades ago by consolidating activities formerly carried out in other agencies with strong institutional histories, NOAA is sometimes considered a "holding company." Today, NOAA accounts for more than 60 percent of the total Department of Commerce budget, making it the single largest part of this Cabinet level agency. These historical and current circumstances point to the need for NOAA to develop and maintain a strong corporate identity. This chapter identifies the components of an effective corporate NOAA, including a number of business processes and best practices from which NOAA can better build and sustain effective management. Subchapters include:

A. Strategic Management
B. NOAA Executive Council and NOAA Executive Panel
C. The Chief Information Officer Model
D. An Improved Process for Planning, Programming and Budgeting
E. Matrix Management
F. A Requirements-Based Management Process

Highlights of NOAA Employee feedback:

- Decisions should be based on a strategic focus on core missions and core competencies.
- Leadership and management should be held accountable for their decisions and actions.
- NOAA should be managed to leverage synergies across its line offices.
- NOAA should effectively prioritize its activities across the organization.
- Decisions should fully consider end-to-end costs, including infrastructure and support systems.
- Decisions should effectively balance competing mandates, such as the Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act.
- Decisions should be based on measurement of overall socioeconomic costs and benefits to the Nation, and there should be follow up monitoring to verify program effectiveness.
- Decision-making should be nimble and flexible, allowing for input from the grass roots.
- NOAA should effectively identify and eliminate obsolete programs.
- Once budget decisions are made, NOAA should have effective budgeting systems that allow timely distribution of funds to its projects and programs.

A. Strategic Management–A Tool For Greater Effectiveness

Many of the issues and concerns raised by NOAA employees and PRT members indicate a need to increase clarity, consistency, and structure in NOAA's corporate decision-making processes. To the extent possible, decisions should result from a *corporate NOAA outlook and culture* that is based on collaboration rather than competition among NOAA's line offices.

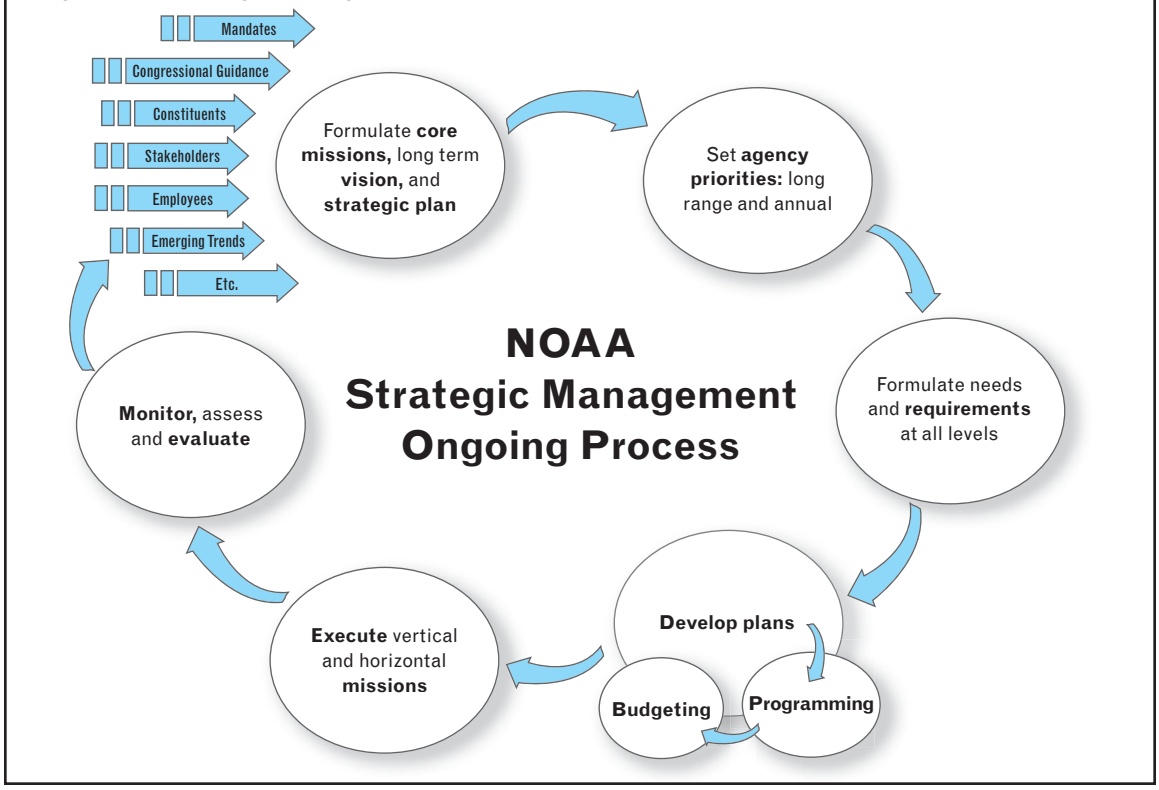
The NOAA strategic management process and supporting systems described below will enable NOAA to achieve our missions by leveraging cross-office strengths and standardizing business processes throughout the Agency. Most importantly, the proposed strategic management process will serve as the foundation for a pragmatic yet flexible corporate deliberation and decision-making process.

NOAA Strategic Management Process

The concept of strategic management reflects a dynamic and ongoing process of information flow, analysis, dialogue, reflection, collaboration, and decision making at multiple levels. It promotes thinking and collaboration resulting in both strategic and tactical corporate decisions and actions. Figure 2.1 provides the overview of the process and flow of activities "feeding" a system of collaboration and decision making. (Additional information is included in Appendix 2-1 and 2-2)

11. The PRT recommends that NOAA institute a strategic management process, as illustrated in Figure 2.1:

Figure 2.1: Strategic Management Process



The process illustrated above is supported by constituent involvement in shaping the strategic plan, setting priorities, and establishing clear performance measures, ongoing assessment of program requirements, and evaluation of results.

The findings from a five-month review of NOAA's budget and financial management processes conducted by the National Academy of Public Administration (NAPA) in March 2000 include a number of relevant findings and recommendations:

- "Strategic management, to be effective, must have a system that connects resources to results and adheres to a decision-making process that is corporate in nature."

- "The planning, budget formulation, and execution processes are not effectively integrated, and the budget structure is not functional. The process for determining requirements and appropriate funding for the Agency's corporate central services, capital assets and facilities is ineffective."

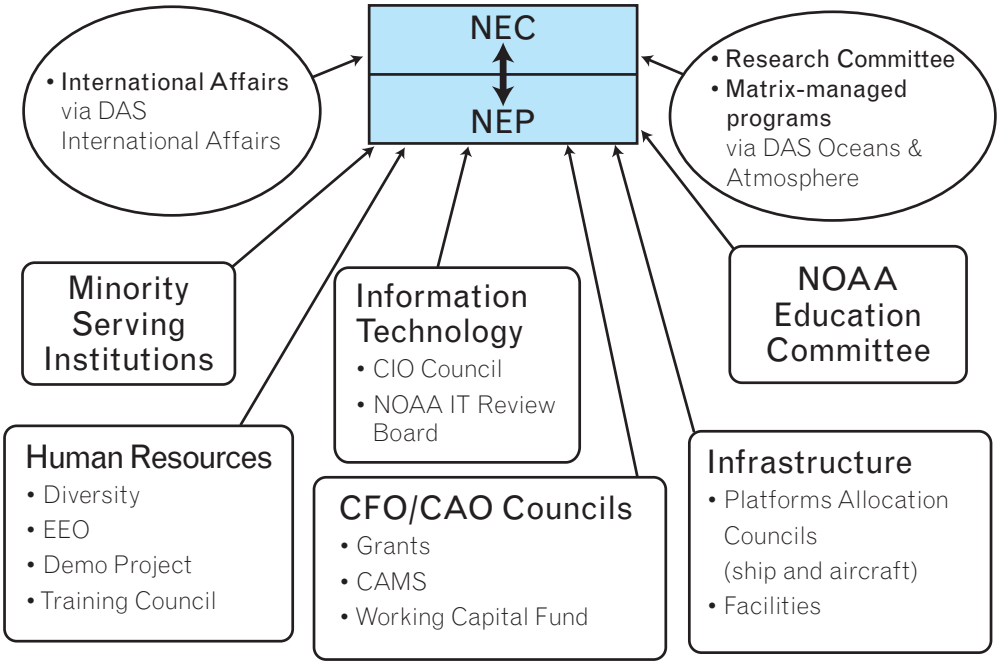
- "NOAA has been an innovator and leader in strategic planning and more recently has taken the initiative in addressing a range of fundamental problems with budget structure and process. However, it is now at a stage of development where a broader corporate-level management mechanism is needed in order to provide a high-level focus for these efforts, balancing the Agency's corporate needs with program goals, and through our actions, improving relations with Congress and other key stakeholders. Strong leadership will be critical to achieving a robust corporate policy and oversight process."

The need to improve corporate decision-making,—i.e., to effectively integrate strategic planning, budgeting, and performance evaluation—is not unique to NOAA. The President's Management Agenda recognized similar problems across the Federal government. It includes a Budget and Performance Integration Initiative that is intended to improve agency performance by requiring the submission of performance-based budgets in 2003. Desired long-term results include: better performance; better control over resources and accountability for results by program managers; innovation as a result of competition; and integrated budget, performance, and accounting information systems at the program level. Over time, high performing programs should be reinforced and non-performing activities reformed or terminated.

B. NOAA Executive Council and NOAA Executive Panel

The PRT acknowledges the recommendation in the 2000 NAPA report for improved NOAA corporate-level management structures. For the short-term, the PRT recommends continued use of the current NOAA Executive Council (NEC) and NOAA Executive Panel (NEP) and other existing committees to achieve integrated planning, programming, and budgeting (See Figure 2.2). In general, these committees need to be more formal, better organized, and provided with adequate resources to conduct corporate management in an effective manner. Furthermore, additional committees may be established for a limited duration, completing necessary work within a finite lifetime.

Figure 2.2: NEC/NEP Subcommittee Structure



12. The PRT recommends an improved business process for corporate decision-making utilizing the NOAA Executive Council, NOAA Executive Panel, and other standing and new committees. Committees will follow standard operating procedures and be linked to the appropriate parts of the overall strategic management process.

The *proposed* composition of the NOAA Executive Council and NOAA Executive Panel is as follows:

NOAA Executive Council

Membership:

- Under Secretary/NOAA Administrator (Chair)
- Assistant Secretary
- Deputy Under Secretary (serves on both NEC and NEP)
- Assistant Administrators
  - —National Environmental Satellite, Data, and Information Service
  - —National Marine Fisheries Service
  - —National Ocean Service
  - —Office of Oceanic and Atmospheric Research
  - —National Weather Service
  - —Program Planning and Integration
- Director, Office of Marine and Aviation Operations
- NOAA Chief Financial Officer(CFO)/Chief Administrative Officer (CAO)
- Deputy Assistant Secretary (DAS) for Oceans and Atmosphere
- Deputy Assistant Secretary (DAS) for International Affairs
- Chief of Staff
- Director, Office of Public and Constituent Affairs

- Director, Office of Legislative Affairs

Roles:

- Establishes new policy and procedures
- Sets organizational direction
- Conducts organizational assessments
- Resolves conflicts among line offices/programs

NOAA matrix-managed programs (e.g., climate, research, corals, ocean exploration, etc.) should report to the NEC through the Deputy Assistant Secretary for Oceans and Atmosphere. Also, international activities should report to the NEC through the Deputy Assistant Secretary for International Affairs.

NOAA Executive Panel

Membership:

- Deputy Under Secretary (Chair. Also sits on the NEC)
- Deputy Assistant Administrators
  - —National Environmental Satellite, Data, and Information Service
  - —National Marine Fisheries Service
  - —National Ocean Service
  - —Office of Oceanic and Atmospheric Research
  - —National Weather Service
- Deputy Director, Office of Marine and Aviation Operations
- Deputy Chief Financial Officer
- Deputy Chief Administrative Officer
- NOAA Chief Information Officer
- Representative of the Office of Program Planning and Integration

Roles:

- Manages Programs within established baselines
- Recommends new/changed policy and programs

Executive support staff should be identified to serve both the NEP and the NEC. Support staff should also be responsible for developing formal agendas briefing documents, and for conducting the necessary research to support decision-making. Support staff would coordinate the dissemination of decision memoranda and follow up activities.

The NEP is supported by a set of standing and ad hoc committees (or councils). These committees need to be systematically reviewed to ensure they are operating with an established charter and procedures for conducting proper planning, assessment, and reporting activities. For a list of committees, see Appendix 2-3.

C. The Chief Information Officer (CIO) Model

In evaluating the approaches to further improve corporate decision making, the PRT discussed a number of existing mechanisms within NOAA. In particular the Chief Information Officer decision making and performance evaluation process was identified as a "best practice." NOAA has established and implemented a CIO structure that includes both a NOAA-level Office of the CIO and CIOs in each line office. This structure provides both local management of line office-specific information technology issues, and joint management to address cross-cutting issues that affect NOAA as a whole. A detailed description of this model is included as Appendix 2-4.

13. The PRT recommends using the CIO model as the "best practice" for the new corporate NEC/Committee process. Further, the PRT recommends managing International Affairs using the CIO model to ensure a NOAA corporate approach. (see Attachment 1, Appendix 2-4)

D. An Improved Process for Planning, Programming and Budgeting

The PRT recognizes and supports the Budget and Performance Integration Initiative of the President's Management Agenda. The PRT agrees with the Agenda's finding that agency performance measures could be improved and better integrated into agency operations and management.

NOAA already has implemented numerous new initiatives to improve both individual and program accountability. Examples include the development of performance measures to comply with the Government Performance and Results Act, and implementation of the Personnel Demonstration Project (pay-banding) to increase the ability to provide pay commensurate with job performance. In order to continue improvement in program and individual performance measurement and accountability, the PRT developed several proposals:

14. The PRT recommends the use of formal tools and measures for accountability and performance based management, including:

- **A. Continue and strengthen development of NOAA-wide performance measures**
- **B. Provide manager training for evaluating employees**
- **C. Establish performance measures for product lines and cross-cuts, with a review by at least two managers for matrix management programs**
- **D. Establish standards for program cross-cuts and write such standards into individual employee performance plans**
- **E. Use the "balanced scorecard" model, as appropriate, which includes customer and employee input, as well as performance measures**
- **F. Tie performance measures to budget and/or performance evaluations in order that high performers are rewarded and poor performers are managed appropriately**
- **G. Use past performance as a factor in planning future investments**
- **H. Use an independent group to design and administer an annual internal customer/supplier satisfaction survey**
- **I. Continue and strengthen the review of NOAA science programs by the Science Advisory Board and/or other outside groups**
- **J. Explore performance-based tools, such as the Capability Maturity Model (see Appendix 2-4) in areas outside of Information Technology**
- **K. Where performance goals are not met, ensure that responsible officials develop a corrective action plan**
- **L. Use performance-based contracts, where feasible**
- **M. Adopt the use of activity-based costing**

15. The PRT recommends that NOAA separate planning, programming and budgeting (moving from a parallel process to a sequential one).

16. The PRT recognizes that strategic planning, the requirements process, planning, programming, budgeting, and program evaluation are interrelated and must be sequenced and integrated. Appendix 2-2 reflects a notional model of the overall process.

17. **The PRT recommends the further refinement of each process and linked master schedules, protocols, and operating agreements for all parts of the system. Expected deliverables include a NOAA Strategic Management Process description and a NOAA Business Operations Manual. The first draft of the process and operating manual should be completed by July 15, 2002.**

18. **The PRT recommends that NOAA Line and Staff Offices should adopt cycle time standards for allocation of financial resources, establishing five business days as the benchmark, following program increase allocation from the NOAA Budget Office. This benchmark could be met by preparing draft spending plans based on Congressional conference committee marks. (See Appendix 2-5 for resource allocation cycle times)**

19. **The PRT recommends study of an end-to-end automated solution for resource allocation (providing for a transfer from the NOAA Budget Office to Financial Management Centers in "one push of the button").**

20. **In order to move towards the future NOAA organizational structure (see Chapter 1, Figure 1.1), the PRT recommends:**
    A. **Restructuring the entire NOAA budget along cross-cutting strategic themes. Future appropriations and budget execution authorities should be aligned with future NOAA missions.**
    B. **Formalizing matrix management with dual reporting and funding to the cross-cutting themes.**

E. Matrix Management

Matrix management involves a balance between two types of organizational alignment. It combines the advantages of the pure functional (traditional) structure and the product organizational structure. In classic matrix management, the project manager has total responsibility and accountability for project success, with functional managers providing technical and business assistance.

Matrix management is a valuable management approach that can improve the execution of NOAA's missions. Matrix management could be used to improve coordination from the high-level program cross-cut theme down to cross line-office cooperative programs. Effective matrix management would also help to maximize efficient use of existing base resources and to obtain targeted increases for successful cross-cutting initiatives.

The PRT identified matrix management as a key tool for moving NOAA towards a more integrated organization, taking the organization one step closer to an appropriate alignment for the future. For the purpose of this discussion, the Team clarified the difference between the term "theme" and "program." The term "theme" is a high-level organizing concept used in strategic planning and budget development. Themes are expected to change over time and may not include specific directives and deliverables. As described below, "programs" have clear deliverables with associated performance measures.

To accomplish matrix management, the PRT identified the need for a new position within the organization to facilitate this process—an Assistant Administrator for Program Planning and Integration. This position would serve as the focal point for matrix teams, ensuring collaboration across line offices and programs.

21. **The PRT recommends using formal matrix management as a corporate business practice and standard protocol, in accordance with the following guidelines:**

A. The PRT sees the need for formal agreements between line offices in "doing business together."

B. There is a key difference between programs and themes. This model applies to programs. For this discussion, programs have clear deliverables with performance measures, with the matrix involving multiple line offices.

C. Funding will go to a program manager who will be responsible for management of resources in order to meet objectives. Before allocation, the program manager will have responsibility to gain agreements and produce a full funding plan.

D. A time phase approach to implementing matrix management. The approach will be initially used for funding increases, involving new, larger programs. For such increases, NOAA should implement formal matrix management, with the program manager reporting to a new Assistant Administrator for Program Planning and Integration. The NOAA Executive Council will determine reporting requirements, depending on level of complexity.

E. In addition, for existing cross-cutting programs (e.g., Corals, Marine Protected Areas and Habitat Restoration), we also recommend requiring a matrix management approach.

F. There will be a program directive for every matrix program. (see example directive in Appendix 2-6)

G. There will be contracts for each team member committing scope of work, time, and resources.

H. Where there is dual reporting, performance reviews will include inputs from both management officials.

In addition to endorsing the concept of matrix management, the PRT identified a specific opportunity for applying matrix management principles for improving coordination of the habitat programs of the National Ocean Service and National Marine Fisheries Service. However, the PRT also discussed the value in maintaining some level of creative tension between the two NOAA line offices involved in habitat programs. Given their different roles and mission mandates, their organizational separation provides a balance of critical perspectives on issues. Additional details on the respective habitat responsibilities of NOS and NMFS can be found in Appendix 2-7.

22. As a demonstration of this approach, the PRT recommends that NOS and NMFS use a matrix management structure for NOAA's marine ecosystem management, monitoring, and protection programs, including habitat, marine protected areas, and corals, with the existing Coral Reef Working Group as a model. Further details of this demonstration would provide that:

A. NOS and NMFS establish permanent liaisons cross-positioned in their respective agencies.

B. NESDIS and OAR be included in matrix management teams.

C. If the NMFS-NOS matrix team is unable to resolve an issue, it should be elevated to the NOS/NMFS leadership, jointly. Should "matrix" management process fixes not result in better coordination and investment efficiencies between NOS and NMFS, the Assistant Administrators of both offices should be accountable for correcting specific lapses in carrying out NOAA's overall missions related to habitat.

D. Alternative organizational structure options shall be examined if, after six months, the matrix management proposal described above is deemed ineffective in achieving objectives for integrated programs.

F. A Requirements-Based Management Process

Vice Admiral Lautenbacher asked NOAA employees whether there are significant imbalances between resources and requirements. Many employees responded that imbalances existed. Deliberation and research by the PRT revealed that, while processes exist to identify requirements to acquire hardware and systems (i.e., ships, aircraft, satellites, IT), requirements have not been widely used to guide program development and implementation for NOAA's natural resource management programs and research. The absence of these processes has limited NOAA's ability to appropriately align resources according to corporate priorities. The PRT also finds that, although there are clearly defined systems and hardware requirements processes, they do not always consider the end-to-end issues related to the full range of a system, from development to final delivery of products to the user. The recommendation for an expanded and improved requirements process is significant for NOAA.

23. The PRT recommends that a NOAA-wide requirements-based management process be established.

The PRT recognizes that the current imbalance between requirements, budgeting, and priorities will be addressed through the development and implementation of a requirements-based management process that considers end-to-end issues.

24. The PRT recommends that an intra-agency working group be established, chartered with developing a NOAA Administrative Order (NAO), using inputs developed from the NOAA Program Review and in accordance with the following:

A. NOAA's Current NAO 208-3 provides a basis for system based requirements

B. NOAA should develop a requirements database (web-based graphical user interface) for capturing and tracking NOAA-wide requirements

C. The new NAO should be completed within 90 days from receipt of tasking

A full description of the proposed requirements-based management process and figures are contained in Appendix 2-8. The PRT recognizes that this system will require appropriate vetting and development across NOAA line and staff office to ensure immediate and successful implementation.

25. The PRT recommends that NOAA coordinate the development of the requirements-based management process with the planning, programming and budgeting processes.

In concert with improved corporate decision-making, strategic planning, and budgeting, this requirements-based management process will be undertaken corporately to ensure that requirements for all related NOAA programs are adequately addressed in the program planning and development phase instead of at implementation.

26. The PRT recommends establishing of a new Program Analysis and Evaluation function within NOAA, with initial efforts directed to high priorities as determined by the NEC.

The PRT finds that NOAA lacks an evaluation function that can be used during program development and implementation to provide NOAA managers and leadership with an unbiased assessment of proposed requirements or programs. As such, the PRT finds that a program, analysis and evaluation function, patterned in part from the Department of Defense model, would provide this needed assessment at all levels of the organization. This would include program evaluations beyond just those pertaining to new acquisitions.

Chapter 3
Toward A "New" NOAA

Overview

In response to the NOAA Administrator's request for feedback, NOAA employees responded most frequently with comments and suggestions on Agency alignment with mission (Review question #1). This chapter discusses how the PRT examined options for organizational structure and how we propose to move NOAA forward without disrupting the elements that make the Agency successful in performing our mission. Subchapters include:

A. A Strong NOAA Headquarters
B. Clarifying Roles and Responsibilities
C. Consolidation of Operational Observing Responsibilities
D. Strengthening Science in NOAA

Highlights of NOAA Employee feedback:

- There is a lack of a NOAA corporate identity. Organizational changes which improve the ability of NOAA to plan and allocate resources will result in a more unified NOAA, creating new opportunities for working together across its various missions and programs.
- Employees and constituents see overlapping missions between NOAA's line offices. There is potential duplication of effort in several areas, most prominently in research and observations.
- There is perceived competition for jurisdiction and resources, e.g., in the area of habitat between NOS and NMFS.
- NMFS fisheries management and preservation objectives create potential conflicts between protecting resources and harvesting species.
- The organizational divide between oceans and atmosphere may be inhibiting a truly holistic, systems approach to environmental prediction and stewardship.
- Reliance on reimbursables at some laboratories is excessive. As a result, research and development is not focused directly on NOAA's mission.

NOAA's existing organizational structure consists of five primary line offices: National Weather Service (NWS), National Marine Fisheries Service (NMFS), National Ocean Service (NOS), National Environmental Satellite, Data and Information Service (NESDIS), and Office of Oceanic and Atmospheric Research (OAR). There are two additional offices that play significant roles (considered akin to line offices): the Office of Marine and Aviation Operations (OMAO) and the Office of Finance

and Administration (OFA). There are also several staff offices that perform advisory and administrative functions.

> "I ask you to think outside the stovepipe about how we as a Nation can best address the issues of research, education, and extension in a framework that really makes sense, that will benefit the Nation as a whole and will be so good that the Congress will be happy to appropriate more money for your efforts."
>
> Representative Vernon J. Ehlers
>
> Markup of H.R. 3389, National Sea Grant College Program Act Amendments of 2002, March 14, 2002

Many employees cited NOAA's history as the reason for our current organizational structure and lack of a corporate identity. They pointed out that NOAA is not the result of any explicit design process, but instead was formed by combining several disparate organizations which, in the time since, have never fully merged. NOAA's line office structure is largely decentralized, with each separate line office primarily responsible for its own strategic direction, policy implementation, and operations. The existing whole of NOAA is, in many ways, a sum of the parts originally combined in 1970 to form the Agency.

Employee suggestions for organizational changes ranged from realignment of individual programs to complete reorganization. The PRT debated a number of alternatives for restructuring of NOAA. Though there are variations on the theme, they generally follow one of two types of approaches: either alignment along mission lines or alignment along functional lines. The following represent the basic components of both approaches:

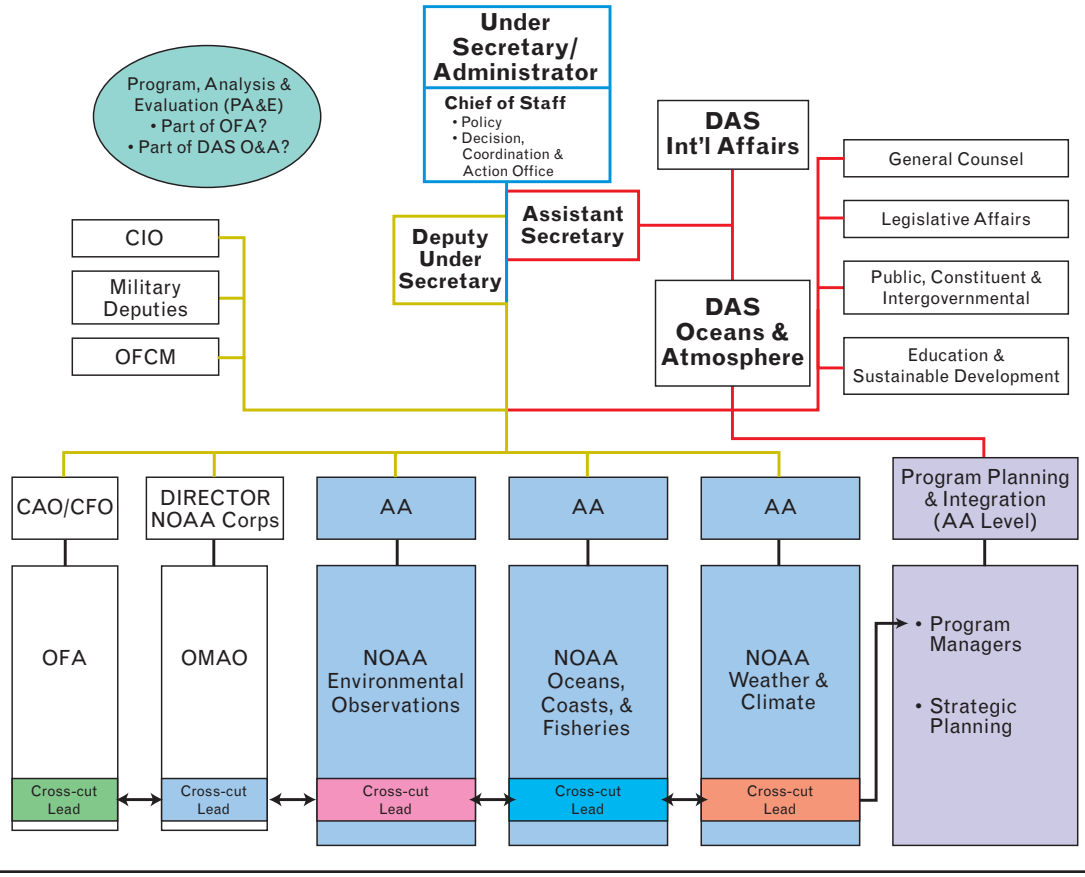
Mission	Function
Atmospheric Services	**Research**
Weather Research & Services	**Observations/Data Collection**
Climate Research & Services	**Predictions**
Hydrologic Research & Services	**Resource Management**
Ocean Services	
Living Marine Resources Research & Management	
Ocean/Coastal Research & Services	
Mapping/Charting	

As described in Chapter 1, the PRT discussion of NOAA's future missions led to the question of whether NOAA's existing organization is aligned appropriately for the challenges we will face. In response to employee recommendations, the PRT debated the merits of a near-term reorganization, including the merging of several of the existing line offices. The discussion centered on the proposal illustrated in Figure 3.1.

Figure 3.1 represents a consolidation of offices and functions within the basic framework of the current organization. It would represent a dramatic change from NOAA's current structure, but it also addresses a majority of the organizational issues raised in employee e-mails. Other characteristics of this proposal include:

- A consolidation of NMFS, NOS, NESDIS Ocean Data, and OAR Marine Research into a single Oceans, Coasts, and Fisheries Organization

Figure 3.1: A Proposed Reorganization



- The consolidation of all environmental observation systems planning and acquisition into a single line office.
- OAR's research activities would be distributed with its climate and weather research activities consolidated with NESDIS and NWS weather and climate programs.
- There would be a new Program Planning and Integration office with matrix management across the line offices
- Modest headquarters reorganization.

This proposal was put forward by the PRT Chair. Having considered the benefits and drawbacks of this proposal, the PRT concluded that the costs of such an immediate reorganization would likely outweigh the benefits. Further, there was concern that this reorganization would exacerbate division between atmospheric and oceanic programs. A majority of PRT members voted against the proposal: NOS, NESDIS, OMAO, Public Affairs, NWS, OFA, the CIO, OAR, and General Counsel.[1]

A. A Strong NOAA Headquarters

While not supporting a major reorganization in the near term, the PRT proposes several changes in the structure of NOAA Headquarters. These changes are reflected in Figure 3.2 below.

[1] The NOS member provided an additional opinion, included in Appendix Intro-5.

27. The PRT recommends consideration of the organizational structure shown in Figure 3.2. Based on this new organization, the following apply:

A. There are "cross-cuts" led by "program managers," who should be career executives

B. Cross-cut themes should be determined in accordance with the strategic plan (and these themes may change over time)

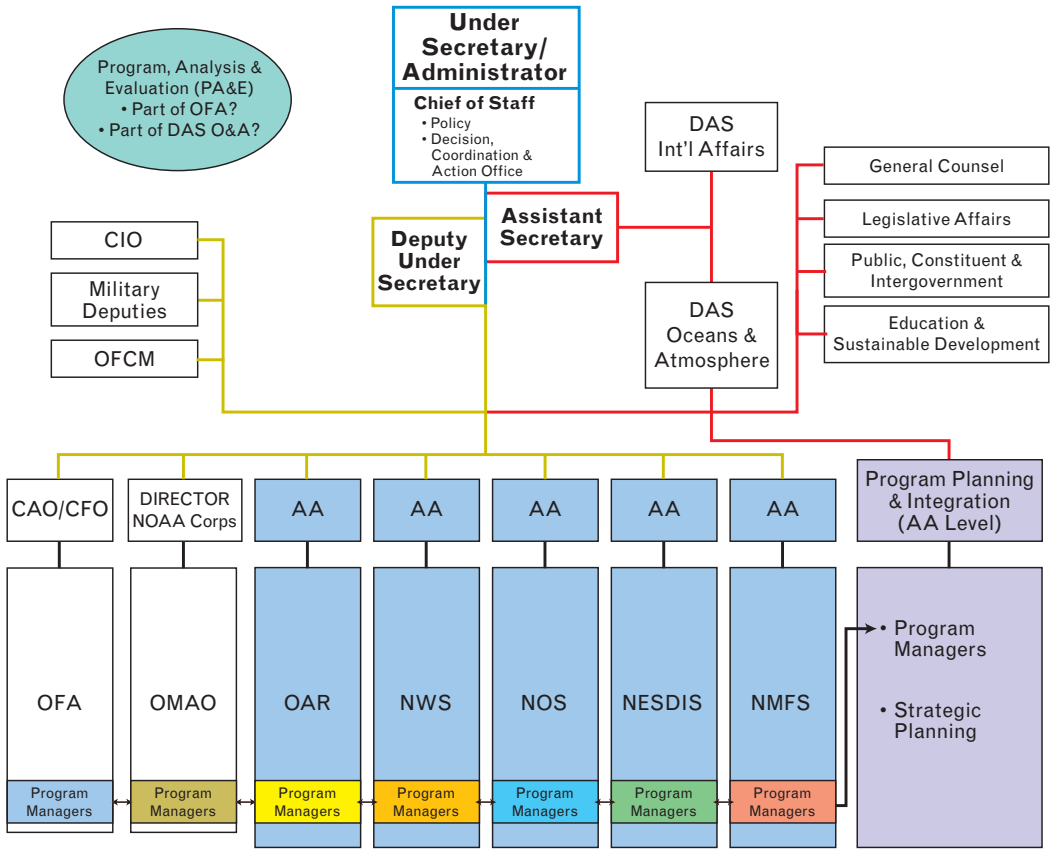
C. Policy guidance for program cross-cuts would include input from appropriate political appointees

28. The PRT recommends the addition of an Assistant Administrator for Program Planning and Integration and associated staff. This is a key support feature along with more formalized corporate business processes that will allow for the immediate implementation of an enhanced corporate NOAA. We recommend that this position be a career employee and the NOAA Administrator should consider making this position a rotational assignment.

Additional description and detail of the organization structure reflected in Figure 3.2 follow:

- The new Assistant Administrator for Program Planning and Integration reports to the Deputy Assistant Secretary for Oceans and Atmosphere and will sit on the NOAA Executive Council.

Figure 3.2: A Strong NOAA Headquarters



- The Office of Program Planning and Integration will oversee program cross-cut managers. Managers of highly complex programs will report both to their respective line office and the Assistant Administrator for Program Planning and Integration.

The PRT also endorses the creation of a program analysis and evaluation function. This function could be part of the Office of Finance and Administration or a separate staff office. The PRT voted on these alternatives as follows:

1. Establish as a separate Staff Office (dissenting votes—OFA, OAR, NESDIS, OSD, LA, NMFS, IA)
2. Establish under OFA (dissenting votes—PSP, CIO, OMAO, Chief Scientist's Office, NWS, GC)

The PRT also discussed placement of the "strategic planning" function (considering "policy" to be subsumed within the Under Secretary's office). The PRT discussed the following alternatives:

1. Place it in a separate staff office
2. Move it to OFA
3. Include it within the Office of Program Planning and Integration

It was generally agreed to reflect it in Figures 3.1 and 3.2 as being under the Office of Program Planning and Integration.

B. Clarifying Roles and Responsibilities

The PRT finds that there is a need to clarify roles and responsibilities throughout the organization. The PRT is aware that, while a number of NMFS laboratories were transferred to NOS in the mid to late 1990s, there have been subsequent discussions between NOS, OAR and NMFS leadership regarding whether these transfers have achieved the desired results. In particular, NOS leadership has argued that the organization should acquire research from OAR and NMFS in the same manner as NWS gets support from OAR laboratories.

In light of these discussions, the PRT recommends a number of transfers and realignments (shown below). The PRT further recommends locating the Ocean Exploration/National Undersea Research Program (OE/NURP) program in NOS, as this program is well aligned with the broader oceanic and coastal mission for NOS proposed in this report. [OE/NURP often operates in conjunction with the National Marine Sanctuary Program, as is the case with the Aquarius Undersea Habitat and the Florida Keys NMS. OE/NURP is focused on discovering and mapping the physical, biological, chemical, archaeological and geological resources of the oceans, and educational outreach.]

29. To improve the focus and efficiency of NOAA science, laboratories, and ocean exploration, the PRT recommends the following realignments:

- **A. Transfer the management of the Charleston, South Carolina laboratory from NOS to OAR**
- **B. Transfer the management of the Beaufort, North Carolina laboratory from NOS to NMFS**
- **C. Transfer the management of the Oxford, Maryland laboratory from NOS to NMFS to be part of and report to the NOAA Chesapeake Bay Office**
- **D. Transfer the management of the Coastal Ocean Program from NOS to OAR[2]**
- **E. Transfer the management of the Seafood Inspection Program from NMFS to the Food and Drug Administration**

[2] The NMFS member of the PRT did not support this recommendation. A minority opinion representing this viewpoint is included in Appendix Intro-5

F. Transfer the management of the Ocean Exploration/National Undersea Research Program from OAR to NOS

G. Transfer the management of the Kasitsna Bay Laboratory from NOS to OAR[3]

30. The PRT recommends that congressional liaison activities, including the respective roles and relationships of the NOAA Office of Legislative Affairs and the NOAA Office of Finance and Administration, be brought to the NOAA Executive Council for further resolution.[4]

31. The PRT recommends that the National Ocean Service assume the same role for the oceans as the National Weather Service serves for the atmosphere (NWS would continue to do marine weather forecasting). Accordingly, the PRT believes that the NOS should be tasked with operating ocean and coastal observing systems for NOAA and provide the leadership for coordination with other agencies and outside partners. (See also Recommendation 32C)

C. Consolidation of Operational Observing Responsibilities

With the exception of satellite systems, in general NOAA's observation systems have been developed and deployed by individual line offices to meet specific program needs. Consequently, these observing systems have not fully realized their potential. Further, NOAA does not have an observation architecture to use in assessing proposed new requirements and proposed observing systems.

This decentralization of observing responsibility and lack of an architecture has made it difficult to ensure that observing systems are:

- designed to provide the maximum value to NOAA
- not duplicative of existing systems
- operated efficiently and in a cost-effective manner

The need for more data which provide higher spatial and temporal resolution is growing rapidly. NOAA has frequently focused on acquiring observation systems but not the means to use the data.

The PRT discussed opportunities for consolidation of ocean observing systems for the purpose of improving operational efficiencies (see Appendix 3-2). For observation systems generally, the PRT considered the following options:

1. Status quo, i.e., each line office continues to develop, deploy, operate and maintain its own observational platforms.
2. Centrally plan and acquire all observing systems. The acquisition method and responsibility for operations and maintenance of systems will be determined on a case-by-case basis.
3. Centralize the planning, acquisition, operations and maintenance of observing systems into a single line office.

The PRT finds Option 2 the most appropriate for the current NOAA and recommends the following:

32. The PRT recommends that NOAA centrally plan and acquire all observing systems, with responsibility assigned to NESDIS. Acquisition method and responsibility for operations and maintenance of systems will be determined on a case-by-case basis.

A. NESDIS should lead a cross-cut team to develop an observational architecture commencing immediately. This should capitalize on on-going efforts (e.g., coastal

[3] The PRT Chairman proposed this transfer as the sole remaining NOS laboratory. The NMFS representative argued that it should be transferred to NMFS instead. Dissenting votes were registered by the following members: Office of the Chief Scientist, NMFS, NESDIS.

[4] The PSP member of the PRT did not support this recommendation. Neither the OFA representative nor her alternate was present for the vote. OFA has provided a minority opinion in Appendix Intro-5.

observations). This architecture should capture the state today as well as the future state (e.g., 10 to 20 years). With this architecture, NOAA would be able to assess current capabilities and identify short-term actions.

B. All prospective observing systems should be based on validated requirements, should be consistent with the developed target architecture, and should be presented with plans to address utilization of the data as well as long term archive of the data.

C. Operation and maintenance of marine environmental buoys and floats (Argo, weather buoys, Tropical Atmosphere Ocean buoy network (TAO), and Coastal-Marine Automated Network (C-MAN) stations) and tide gauges should be consolidated with appropriate expertise into NOS. [See Appendix 3-3]

D. A cross-cutting team led by NESDIS should conduct a systemic review of all other observing systems. The following factors should be considered for observing systems to determine the desirability of consolidating them:

- **The required characteristics of the system (i.e., reliability, performance, maintainability)**
- **The number of and types of users of the system**
- **The estimated value of the capital asset and its recurring maintenance cost**

D. Strengthening Science in NOAA

As a science-based agency, NOAA's missions of environmental assessment and prediction and resource management depend on sound science. Subject to the Government Performance and Results Act (GPRA), the Office of Management and Budget (OMB) judges the extent to which agency science programs adhere to GPRA and the Administration's priorities. OMB has established a set of criteria for evaluating applied research.

OMB Criteria for Applied Research

1. Is the project a presidential priority?
2. Will the project clearly benefit the public and the private sector will not fund the research?
3. Is support for applied research the best means to accomplish the Federal goal?
4. Is the project comprehensive, i.e., milestones and guidance as to when the research should stop?
5. Was the project selected in a competitive manner?
6. If the project was previously funded, did it deliver results on time and in a cost-effective manner?

Regulation, Law, and Economics, January 16, 2002, p. A-37

In a recent National Academy of Sciences report (NAS, 1999), the NAS Committee on Science, Engineering, and Public Policy developed "mechanisms to evaluate the effects of GPRA on agency program decisions and the practice of research," based on three criteria: quality, relevance, and performance. NOAA employees and the PRT generally have high confidence in the quality of NOAA science. There are processes and procedures within each of the line offices to ensure that the science conducted at laboratories, by programs, and within science offices are of the highest quality.

Employee responses regarding science in NOAA included issues associated with how we should organize our research activities. Should NOAA have: (1) a centralized or decentralized research program, and (2) consider moving various labs and programs from one line office to another? An advantage of having research centralized (i.e., a single research line office conducts research for our clients, the NOAA service and regulatory line offices) is the consolidation of scientific competencies and capacity, including the potential to separate regulation from the science conducted to support it. On the other hand, decentralized research (i.e., research resides in the line office that requires it) allows for science to be more responsive to an individual line office's product, service and regulatory needs, including the ability to direct resources. These issues were discussed by the PRT and we examined four possible options. The preferred option is to maintain the "hybrid" of centralized and decentralized science and research activities as they currently exist, with possible alignment of labs along thematic lines in order to improve coordination (for additional detail, including other options, see Appendix 3-4).

33. The PRT recommends that NOAA continue our current research system, consisting of dedicated research in OAR, end-to-end research in NMFS, and a mixture of in-house and cross-line office research in NWS, NOS[5], and NESDIS.

34. The PRT recommends that NOAA research be organized into weather, climate, coastal/ocean and living marine resource themes and that, when practical, labs be consolidated along these thematic lines.

Regardless of organizational structure, NOAA needs to ensure that research is responsive to the needs of our operating programs. To address this issue, the PRT formulated a proposal to improve the way in which NOAA decides how to ensure that the "right" science is being conducted and where the best investments in research and development should be made.

35. The PRT recommends a framework for ensuring the best science in NOAA, in accordance with the following principles:

- **A. Recognize the broad scientific strengths of agencies like the National Science Foundation, Office of Naval Research, and the National Aeronautics and Space Administration.**
- **B. Recognize that NOAA, as a mission agency, is critically dependent on those scientific strengths.**
- **C. Recognize that NOAA must have an in-house scientific capability, so that we can be a good 'buyer' of science and a good 'translator' of that science to apply to societal needs (just as NASA and Navy have in-house labs).**

[see Appendix 3-5 for additional details on ensuring the best science in NOAA]

36. The PRT recommends the establishment of corporate level oversight of research (Research Committee), regardless of the manner in which research is conducted. This new structure would replace the Office of the Chief Scientist, with appropriate redistribution of that Office's roles and responsibilities [see Appendix 3-6]. This corporate oversight would include research as part of an entire program life cycle.

- **A. The corporate focus of research and development would be a Research Committee, consisting of the Chief Scientists of each of the line offices and the Assistant Administrator for Program Planning and Integration. The Chair of the Committee would be rotated among the members.**
- **B. The Council would report to the NOAA Executive Council (NEC).**
- **C. The NEC would oversee the Agency's Research and Development investment (budget) in Directed and Exploratory research, regardless of how the funds were appropriated or where the funds were spent.**

[5] If recommendation #29 is endorsed by the NOAA Administrator, NOS in-house laboratories would be transferred to NMFS and OAR.

D. Research investment would follow best practice and be applied consistently across NOAA following OMB criteria, for example.

E. Rolling reviews of all programs would be conducted by the Research Committee (using Science Advisory Board mechanisms)

F. In addition to its current responsibilities, the NOAA Science Advisory Board would advise the NOAA Research Committee.

G. The Research Committee would be responsible for external research grants and contracts, ensuring that an appropriate level of research is conducted externally on behalf of NOAA. This function may be delegated, as appropriate.

37. The PRT recommends continuation of the NOAA Science Advisory Board, with a working group established to provide the role of technical direction for NOAA research.

In fiscal year 2002, approximately 24 percent of funds appropriated for NOAA research and development science was spent externally through grants and contracts. Approximately twenty-seven percent of those funds are awarded non-competitively to NOAA joint and cooperative institutes. The nation's colleges and universities provide expertise and capacity in oceanic and atmospheric research and development, education, and services. A close partnership with the nation's universities is essential to meeting our mission goals, and exploratory or basic research is especially well-suited to academic research.

38. The PRT recommends that NOAA commit to spending 50 percent of new research funds (exclusive of adjustments to base) within the external community (e.g., universities, private sector) via competitive proposals and peer review.

Besides directly supporting university research, NOAA must look in all directions for the research and development that supports our mission goals. The PRT makes the following recommendation to address how to get the best science to NOAA.

39. The PRT recommends that NOAA increase engagement in interagency cooperative agreements wherever NOAA receives a true mission benefit. Specifically, NOAA should:

A. Identify opportunities to apply the National Oceanographic Partnership Program (NOPP) and U.S. Weather Research Program models elsewhere.

B. Incorporate a "check point" in our budget formulation process to consider the applicability of NOPP or other interagency mechanisms, as appropriate.

Much of the research that OAR conducts depends on observing networks. The goal of research is to transfer new knowledge to operational environment prediction systems or resource management. As with research, if an operational prediction system depends on observational data, then the network becomes an operational requirement. However, OAR continues to support the observational network. This retention of the operations and maintenance responsibilities for an operational network drains resources away from research. Transferring the financial responsibility for these networks from OAR to the operational line office will enable OAR to focus its resources on new research and development. This transfer is currently underway for the Tsunami Warning System and is proposed for other marine/ocean observing buoys through this report. There are other candidates for transfer. The decision to transfer resources would be made using the requirements-based management process discussed in Chapter 2 of this report.

40. The PRT finds that NOAA's Office of Oceanic and Atmospheric Research often fields and supports research and development (R&D) observing systems that have become, de facto, operational. The PRT supports the development and deployment of R&D systems; however, after NOAA has identified primary operational

functions for these systems, the PRT recommends that these systems should migrate to the line offices with the appropriate operational mandate.

To address the issue of the credibility of NMFS science:

41. The PRT recommends that, for line offices that conduct both regulatory functions and research functions that inform regulation, NOAA should separate these functions as much as possible. This can be accomplished by minor structural changes. For example, within NMFS:

- **A. Create a science position within top NMFS management reporting directly to the AA/DAA to oversee the NMFS science programs with respect to quality, independence, and responsiveness;**
- **B. Maintain the regional Science Centers as explicitly separate financial management centers; and**
- **C. Shift the reporting of the regional Science Center Directors from the Regional Administrators to either the top management science position or the DAA.**

42. The PRT recommends that there be an independent peer review of current NOAA external partnerships, consistent with Office of Management and Budget recommendations for Federal research investment.

Chapter 4
Support For NOAA'S Mission

Overview

Though often undervalued for the critical role they play in making business run smoothly, NOAA's support functions perform an essential part in achieving the Agency's mission. The PRT examined a number of these functions, including the processes used in allocating resources across NOAA's line offices. This chapter includes a series of recommendations to strengthen a broad array of services.

Subchapters include:

A. Facilities, Safety and Compliance
B. Administrative Services
C. Grants
D. Information Technology
E. Allocating Ship and Aircraft Resources
F. Regional Coordination
G. Education and Outreach

Highlights of NOAA Employee feedback:

- Should particular functions be concentrated in one place or office, or distributed more widely across offices and regions?
- Is NOAA best served by the current geographical breakout of Administrative Service Centers (ASCs) and the various line office and programmatic regional designations, or are realignments or elimination of regional activities appropriate?
- NOAA should address major concerns associated with facilities repair and maintenance, new construction, and major acquisition strategic planning and prioritization.
- NOAA should standardize services, policies, procedures, and practices to ensure consistent implementation.
- NOAA should establish "centers of expertise" for administrative functions and locate the centers based on mission and customer need.
- Grants administered by NOAA should be managed and processed "better, faster and cheaper."
- NOAA should develop and implement agency-wide data management policies.

Highlights of NOAA Employee feedback (cont'd):

- NOAA should establish an IT infrastructure fund.
- The ship and aircraft time allocation process should be revamped to focus on the relative priorities of program objectives and results, and to maximize the number of missions carried out on each cruise or flight.
- NOAA should implement a system of regional coordination.
- Education is the key to effecting change.
- NOAA should create an Office of Education.

Broadly speaking, "mission support" encompasses those agency activities that are not directly operational, but are essential to the effective and successful accomplishment of operational objectives. Support activities underpin NOAA's stewardship and prediction work. These activities include policy and planning, administration (to include budget, grants, finance and human resources management), public affairs, congressional relations, legal support, information technology, ships and aircraft, facilities maintenance and repair, new construction and major acquisitions, and safety and environmental compliance. The majority of these activities occur in headquarters and regional staff offices and in the Office of Marine and Aviation Operations (OMAO).

A. Facilities, Safety and Compliance

As noted in the Executive Summary, facilities, safety, and compliance are areas where NOAA has already identified critical resource needs.

Based on the actions proposed by OFA and subsequent discussion (see also Appendix 4-1), the PRT advises the following:

43. In recognition of the high importance of facilities, including repair and maintenance and new construction, the PRT recommends that facilities be evaluated in the budget formulation process. In addition, the PRT recommends the following:

A. NOAA senior executives and managers should be held accountable for placing a priority on facilities, on equal footing with programs.

B. Facilities leadership for NOAA should be at the Senior Executive Service level and housed in the Office of Finance and Administration. The CFO/CAO is accountable for ensuring that corporate facilities planning and management are accomplished.

C. NOAA should have a facilities master plan for:
- **Assessment, replacement, consolidation and abandonment of buildings**
- **Prioritization of repairs and maintenance**
- **Addressing *all* NOAA facilities, not just NOAA owned facilities**

D. NOAA should reactivate the Facilities Council and it should be given responsibility and authority for planning, priorities, oversight, standards and investment review.

E. NOAA should commission an independent assessment mechanism for quality control and oversight. It should be patterned on the experience that NWS developed during its modernization effort with its extensive closure of Weather

Forecast Offices. NOAA should create a process similar to the NWS methodology for consolidations and closure of facilities (i.e., look end-to-end).

44. The PRT wishes to highlight the critical importance of safety and compliance in ensuring the well-being and productivity of the NOAA workforce and endorses the efforts underway in NOAA and the Department of Commerce to address this issue. The PRT recommends the issues of oversight and reporting structure be addressed in NOAA's safety and compliance implementation strategy to ensure independence and quality.

B. Administrative Services

The PRT acknowledges that there is room for improvement in the performance and delivery of several of NOAA's administrative services. At the same time, we recognize that there have been improvements, often as a result of technology enhancements, and that many of the remaining problems are directly related to downsizing during the past ten years (see also Appendix 4-2).

To address the needs identified, the PRT developed two possible options. Option 1 focuses on actions that could and/or should be taken to address NOAA's administrative support issues from within. This option presupposes the continuation of the Administrative Service Centers in what is essentially their current configuration, but also allows for change as other recommendations and proposed process enhancements (e.g., the Business Management Fund) are implemented. Option 2 proposes the reduction of NOAA's in-house administrative services activities to the lowest level allowable by law.

45. The PRT recommends pursuing Option 1, as described below. This recommendation was supported by a consensus vote of the PRT.

Option 1:

A. NOAA should aggressively pursue implementation of service level agreements, including the means for tracking and accountability.
B. NOAA should implement the Business Management Fund, including Activity Based Cost Management. In advance of authorization for the fund, NOAA should continue to develop cost data for individual services.
C. NOAA should establish and implement clear performance measures and metrics for levels of service, linked to Activity Based Cost accounting.
D. NOAA should implement a formal and regular review process that provides for both customer and service provider feedback. Linked to this review will be a collaborative process to address the feedback, using a team approach to service improvement.
E. NOAA should develop, obtain authorization for, and implement a pilot project that will determine the advantages and disadvantages of direct hire authority for the agency.
F. NOAA should implement a pilot competitive contract for administrative services, to be defined based on where there is the greatest need for services. The contract will be for either a single service or a full suite of services based on an analysis of need.
G. NOAA's Administrative Service Centers shall report directly to NOAA. The ASCs must be recognized as NOAA assets, utilizing exclusively NOAA staff and resources, and ASCs that perform services for other agencies should do so indirectly by reimbursable agreement.

Option 2:

NOAA should contract out all administrative services, consistent with restrictions imposed by existing law.[6]

C. Grants

There is general consensus, both within NOAA and with the Agency's customers, that the NOAA grants process takes too long to get funding to the grantee. The entire life-cycle of a grant—from program managers at the line office, through the Grants Management Division and other support staff offices, to the grantee—must be examined. It is clear that there is room for improvement at every level (see also Appendix 4-3):

- Faster: Where are there holdups, and what can be done to identify these trouble spots, and eliminate or reduce them?
- Better: What can be done in terms of staff and systems to make the process both more effective and more efficient?
- Cheaper: Is the administrative overhead too much, and can it be reduced? Or should the focus be on "getting more bang for the buck" by working on (2) above?

This issue has been separately examined by OFA and the Grants Management Division (GMD), which developed a number of options and recommendations they feel could be implemented immediately. There were also some options identified outside the purview of OFA, including grants processing within line offices, supporting staff offices within both NOAA and the Department of Commerce, and possible process improvements that NOAA may be able to negotiate with Congressional Appropriations staff. The following recommendations resulted from this discussion:

46. The PRT recommends the NOAA Grants Council be reconstituted and charged with the responsibilities to streamline, implement and oversee the NOAA grants process and products. The Director of Acquisition and Grants is the Chair of the Council, and has overall responsibility and accountability for the effective execution of the process between the Program Offices and the NOAA Grants Office.

47. The PRT recommends that NOAA implement five short-term recommendations:

- **A. Do pre-work on recurring grants applications (those that are expected to be reauthorized) prior to Appropriation;**
- **B. Immediately following enactment of the annual Appropriation, meet with Congressional Appropriations staff on clarifications;**
- **C. Streamline distribution of funds (see timelines in Appendix 4-3);**
- **D. Set upper limits/cycle times for Program Offices and the NOAA Grants Office (to include General Counsel and Inspector General clearance and Congressional notification); and**
- **E. Facilitate Grantee submission of complete and accurate applications by use of automation and training (through grants workshops). In accordance with PRT instructions, the reference to "automation" refers to anticipated improvements to the present system, as opposed to delaying implementation until a total system change can be brought online.**

48. The PRT recommends that NOAA acknowledge our commitment to maintaining the "buying power" of recurring grants, utilizing whatever budgetary methodology is most appropriate and feasible, i.e., adjustments to base or program increases.

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[6] Option 2 was not supported by representatives of OMAO, NWS, OFA and the PRT Chair. A Minority Opinion was submitted by the NWS representative, which can be found at Appendix Intro-5.

49. The PRT recommends that NOAA improve acknowledgment and recognition of agency grant support by the following:

A. There should be a clearly written description of each grant, a NOAA Public Information contact name and telephone number for each grant, and the applicable NOAA program name. This information should be furnished to the NOAA Office of Public Affairs, as part of the regular grants process. The NOAA Office of Public Affairs is the lead for this activity.

B. The Office of Public Affairs will develop press releases to Regional Press including member quotes, as well as posting it to the NOAA Website. The NOAA Office of Public Affairs is the lead for this activity.

C. Each grant issued by the NOAA Grants Office, should include a standard clause requiring NOAA attribution, similar to that used by NASA. The NOAA Grants Office will research the methodology and legality of this approach.

D. Upon completion of the grant project, or periodically if appropriate, the results of the project should be publicized, with proper attribution to NOAA as the sponsoring organization.

50. The PRT recommends that the NOAA Grants Office ensure that "a commitment to education and outreach" is included in its standard criteria in the grants selection process for merit reviews, where appropriate (e.g., not precluded by law).

51. The PRT recommends, for the portion of grants administration that is not inherently governmental, NOAA should examine the possibility of conducting a pilot program to assess the use of contractor support.

A. The NOAA line offices will recommend the "test beds"–that is, specific grant programs that would be appropriate and willing to be so used.

B. The PRT recommends publication of a no-cost Request for Information (RFI), potentially leading to a contract. If successful, this proposal will allow line office program managers to increase focus on core missions.

Also at Appendix 4-3 is a report by the Grants Management Division on the implementation of the above recommendations, as well as responses to the other taskings from the PRT.

D. Information Technology

Employee comments and recommendations related to information technology (IT) issues in NOAA cover a broad spectrum, reflecting the importance and breadth of IT in the daily operations of the Agency (see also Appendix 4-4). This technology supports the Agency's mission and IT expenditures represent a significant part of the budget.

52. The PRT recommends several actions to improve the use and management of Information Technology, including the following:

A. CIO Implementation

- **NOAA and DOC should complete the reorganization forming the Office of the CIO, which has been pending for over 2 years.**
- **The line offices should continue to support NOAA-wide IT teams and initiatives.**

B. Improve Efficiency and Connectivity of IT Use

- **NOAA should aggressively pursue cross-line office economies of scale in IT systems.**

- **NOAA management mechanisms (line offices, IT Review Board, and agency political leadership) must push for integration at every opportunity.**

C. Homeland Security

- **Adopt a policy of "no single point of failure" for critical systems.**
- **Cooperate using distributed service provision, where feasible, to increase reliability and service recovery.**
- **Automatic, transparent failover of critical systems so that if one component fails, another takes over its function automatically.**

D. Technology Refreshment

- **Include three to five year technology refreshment in all agreements for reimbursable services.**
- **Explore the use of a Working Capital Fund for IT that would support capitalization of investments in systems and improved planning and management of overhead support services.**

E. Data Management

- **NOAA should reinvigorate its data management policy formulation process by updating the draft policy and then adopting the policy.**

F. Web Services

- **NOAA should continue to consolidate web services whenever possible. New web services should be placed on existing web servers whenever possible.**

E. Allocating Ship and Aircraft Resources

The PRT examined a number of issues associated with allocation of ship and aircraft resources [a more detailed discussion of the Ship and Aircraft Allocation Process is in Appendix 4-5].

53. The PRT recommends that the Ship and Aircraft Allocation Process be enhanced with improved timing, independent reviews of allocations, a stronger role for the Director of the Office of Marine and Aviation Operations, and a clear link to the budget planning cycle. Operating principles for these improvements also are included in Appendix 4-5.

"Thanks to NOAA's hurricane research, their flights into the storm, their satellite coverage and weather forecasts, the loss of life, while still very tragic, was significantly less than what it otherwise would have been."

Senator Ernest F. Hollings regarding NOAA's service during Hurricane Floyd, October 1999

F. Regional Coordination

In order to effectively deliver products and services to regional and local levels, NOAA has developed a nationwide presence of Weather Forecast Offices, Fisheries Research Laboratories, National Marine Sanctuaries, National Estuarine Research Reserves, NOAA Laboratories and Cooperative and Joint

Institutes. Many of these offices are involved in outreach programs specific to their program interests, but they do not necessarily project themselves as part of NOAA as a whole. In many instances, there is little coordination among these field offices even though they are in close geographic proximity to each other and, in some cases, are involved in activities that are closely related to each other. For example, National Marine Sanctuaries and Fisheries Laboratories are both involved in activities related to stewardship of natural resources and habitat but have sometimes provided different messages to the same audience. To improve coordination, NOS and NMFS have recently codified a relationship between the Sanctuaries Program and NMFS Regions for outreach and management plan review activities. More effective coordination of NOAA programs and delivery of a coherent message would improve NOAA's regional presence and identity. Further discussion and information is included in Appendix 4-6.

54. The PRT recommends the development of pilot regional coordination programs in Tampa Bay, Seattle-Tacoma, the San Francisco Bay Area, and Miami. The role of the regional coordinators will be to:

- **A. Ensure that all NOAA employees are aware of each other's available products and services**
- **B. Coordinate relevant activities to ensure one NOAA face to the outside**

Regional Coordinators in key states or cities will provide opportunities for NOAA to achieve better recognition of our corporate image. They will help NOAA employees develop regional projects with other NOAA programs. Information can be distributed to all states and territories through improved use of NOAA facilities as outlets for information. The PRT believes this will allow NOAA to reach our users and constituents in a more coordinated way versus the "stovepiped" program specific activities currently underway.

G. Education and Outreach

In order to accomplish its missions, NOAA needs a focused education and outreach strategy. For example, we must ensure that the public understands the meaning of watches and warnings, and the importance of NOAA measures to protect the Nation's natural resources. In order to gain recognition and support, we must also distinguish our products and services from those provided by other Federal agencies, the private sector and non-governmental organizations. In the long run, the ability to recruit our future workforce also depends on an effective education and outreach strategy. Further discussion and information is in Appendix 4-7.

The NOAA Program Review assessed recommendations from a number of studies, white papers, and employee comments, recognized that the process of education and outreach needs a long term and focused strategy, and recommended the following:

55. The PRT recommends the renaming of NOAA's existing Office of Sustainable Development and Intergovernmental Affairs as the Office of Education and Sustainable Development. The Office would:

- **A. Coordinate the NOAA strategic plan for education and ensure coordinated messages and outreach in conjunction with the Office of Public and Constituent Affairs**
- **B. Coordinate line office efforts**
- **C. Provide expert support to lines (via contract)**
- **D. Promote NOAA**
- **E. Seek out opportunities for NOAA**
- **F. Hire professionals to train and provide NOAA with "how to's" on improving education and outreach effectiveness**

The expected outcome would be the development of a coordinated message linked to opportunities to deliver NOAA's corporate message to the public, users, and constituents. To undertake this, the PRT recognized that developing and delivering these educational and outreach messages must be a funding priority within the line offices from the early stages of program development and final implementation. To that end, the PRT recommended that:

56. NOAA should require that a fixed percentage of program funds be dedicated to the development of effective education and outreach strategies.

Chapter 5
Developing And Sustaining The NOAA Workforce

Overview

NOAA's people are the Agency's greatest asset. In an era of ever increasing competition for a talented pool of employees, the need to develop and sustain NOAA's workforce will only increase. The PRT examined a series of issues related to the workforce, including a response to an Administration requirement to identify strategies for restructuring. This chapter includes recommendations for improving the tools available to recruit and retain a skilled workforce, provide the training they need, develop incentives for them to stay, and plan for the transition of an aging population. Subchapters include:

A. Workforce Restructuring
B. Recruitment
C. Training
D. Retention
E. Succession
F. Rotational Assignments

Highlights of NOAA Employee feedback:

- NOAA should institute workforce planning, including skills assessment and succession planning, to meet mission needs.
- Advances in technology have not necessarily reduced the need for personnel.
- There are few young people in the administrative offices of NOAA. A significant portion of the NOAA workforce is approaching retirement eligibility.
- Commerce Opportunities On-line (COOL) has generally not lived up to its promise.
- Training is critical, especially for aspiring managers.
- NOAA should develop an Agency-wide plan for training.
- Cross-training and rotational assignments would help build bridges between programs and line offices.
- NOAA should create an alternative personnel management system based on the existing demonstration project.

A. Workforce Restructuring

In addition to the many comments from employees, as well as concerns noted in Program Review Team assessments, workforce issues figure prominently in a variety of Administration policy papers and a major Office of Management and Budget (OMB) tasking. The President's Management Agenda includes a government-wide initiative for "Strategic Management of Human Capital." The President's Management Agenda also addresses the need for "Freedom to Manage," providing flexibility and authority to free managers "in areas such as personnel, budgeting, and property disposal." In addition, in the Department of Commerce section of the FY 2003 President's Budget, NOAA is specifically tasked to review the potential for workforce restructuring. Finally, in a closely related effort, the FY 2002 NOAA Organizational Assessment, currently in progress, is a survey and assessment process designed to provide a detailed description and analysis of NOAA's organizational culture, perceptions and needs. See also Appendix 5-1, and references listed in Appendix 6-1.

Based on a review of NOAA payroll data from 1992-2002, the following observations are drawn with regard to the Federal employee on board population in NOAA (see tables in Appendix 5-1):

- Overall Federal employment in NOAA has *decreased* by 8 percent while over the same time period the agency's budgetary resources have grown by 45 percent and NOAA's missions have become more complex.
- Similarly, when looking at individual administrative job series in total (i.e., budget, finance, human resources), these categories have also decreased anywhere from 2 percent to 50 percent, depending on the functional series.
- While it is acknowledged that the statements above do, in fact, support the overall goal of reducing Federal employment, the PRT does not believe that the goal of "personnel reductions" alone addresses the quality of service delivery in either a mission critical or support capacity. In fact, in some cases the decrease in administrative services has directly affected mission support.

In many cases, apparently similar administrative and policy functions exist in NOAA at both headquarters and line office locations, creating a perception of duplication. While the data would seem to show that headquarters and line office personnel encumber common job series, the fact is that the location of these positions (i.e. headquarters or line offices) demand significantly different responsibilities and perform quite disparate functions. However, this is not intuitively clear and often causes confusion, particularly with external customers and stakeholders, including OMB and Congress.

57. The PRT recommends that NOAA examine administrative and policy functions and clarify roles and responsibilities, making appropriate adjustments. Work is already underway on these activities and will be finalized by the NOAA Executive Panel by June 15, 2002. The following functional areas and activities should be evaluated:

A. Budget–between headquarters OFA offices and line offices.
B. International Affairs–between headquarters and line offices.
C. Human Resources–between OFA Headquarters and the ASCs.
D. Finance–specifically between OFA Headquarters and the ASCs, but also among the line offices.
E. Education, Public and Constituent Affairs–between headquarters and the line offices.
F. Grants–see recommendations under Grants.
G. Establish single points of contact for legislative functions both for NMFS and NESDIS.

H. DOC and NOAA General Counsel should clearly delineate roles, responsibilities, and services of both organizations. Implement service agreements, where appropriate, including agreed-upon cycle times for all clearance processes.

58. The PRT recommends that the human resources and budget databases should be reconciled to update and revise the NOAA Table of Organization. This effort is underway and will be completed by October 1, 2002.

59. In order to improve consistency in service and policy applications, the PRT recommends that the Human Resource, Finance, Procurement, and Facilities Directors located in the Administrative Support Centers (ASCs) should report directly to OFA Headquarters functional directors, instead of the local ASC Directors.

60. The PRT supports increased delayering and streamlining efforts. However, potential negative impacts should be assessed by line offices and staff offices before implementation. Suggested actions include:
    A. Carefully evaluate respective management levels to ensure that appropriate staff are placed at appropriate grades consistent with their responsibilities.
    B. Whenever possible, when vacancies occur the positions should be filled by personnel at the lowest grade level appropriate to provide for career progression and the ability to shift to accommodate future needs and missions.
    C. Increase the use of term appointments.
    D. Streamline the Senior Executive Service (SES) hiring process and empower the NOAA Administrator to conduct SES selections, adjust the application process (e.g., Executive Core Qualifications) to be more "friendly" to non-governmental candidates and eliminate the Department of Commerce's recapture SES policy.
    E. Empower the NOAA General Counsel to approve MOAs, MOUs, and grants.
    F. Increase contracting thresholds for signature authority to $10 million for all Assistant Administrators.

61. In support of the Presidential Management Agenda's focus on removing barriers to effective management, the PRT recommends that NOAA address the following:
    A. Lift funding limits on NOAA Headquarters–current rules hamper the effective administration of a $3.3 billion agency.
    B. Adjust reprogramming authority thresholds to address current funding and management restrictions.
    C. Obtain direct hiring and termination authority, and strengthen accountability of managers for utilizing employee probation periods to obtain an effective workforce.

"I have received many complaints that filling [Senior Executive Service] jobs takes too long and is too complicated," Kay Coles James, the director of the Office of Personnel Management, wrote last week in a memo to agency heads. In her memo, James said the government's "commitment to merit and diversity precludes instant hires" to replace departing Federal executives. "Nevertheless, I believe we can do much better than the six-month average it now takes to fill an SES vacancy."

Washington Post, April 21, 2002

B. Recruitment

Problems with filling vacancies—recruitment—was a major concern for both employees and PRT members. It is also echoed by input received from line and staff offices in response to the taskings in the Office of Management and Budget (OMB) Bulletin 01-07, *Workforce Planning and Restructuring,* dated May 8, 2001. Primary areas addressed were the cumbersome and time-consuming Federal recruiting process that frequently discourages the most qualified applicants, and the problems that Federal employers have when they must compete with the private sector. The PRT also took up the issue of recruiting a future workforce that is both well-qualified and versatile, capable of adapting to the 21st Century's dynamic technical and political challenges.

62. The PRT recommends that NOAA take advantage of the full range of recruitment opportunities, where appropriate, including:

- **A. Enhance the student/summer employment program**
- **B. Expand special employment programs**
- **C. Use the student loan repayment policy**
- **D. Increase the use of recruitment/relocation bonus**
- **E. Expand the pay banding demonstration project**
- **F. Streamline the recruitment process**
- **G. For entry level recruiting, establish as a "given" that the prospective employee will rotate**
- **H. Eliminate the "rule of three" for final selection of non-status applicants**
- **I. Increase the use of telework, flexible workplace and alternative work schedules**

> "I am excited about this idea, because studies have shown that telecommuting contributes to greater worker productivity, yet it also gives people more time at home and less time on the road."
>
> Representative Frank R. Wolf regarding the Telecommuting Initiative, October 1999

63. The PRT recommends that NOAA recruit the following workforce skills to help accomplish NOAA's current and future missions:

- **A. Senior managers with general skills, using generalist career paths**
- **B. Recruit and develop employees to have cross-line, multi-disciplinary experience so that they can assist in the integration of NOAA's broad missions and areas of scientific expertise**
- **C. Socioeconomic analysis**
- **D. IT literate workforce**
- **E. Professional planners, evaluators and futurists**
- **F. International and multicultural expertise**
- **G. Education/outreach/communications specialists**

C. Training

Training is seen by employees and managers as a dual-purpose tool—it is a necessary activity for ensuring that the NOAA workforce retains and develops needed competencies and skills, and it is also viewed by most as a very desirable benefit. The PRT recognizes that training is not only a vehicle for making

our workforce better and more productive, but it is also a means of maintaining job satisfaction and retaining employees longer.

64. The PRT recommends NOAA make improvements in the training program, where appropriate, including:

- **A. Provide tuition reimbursement**
- **B. Expand the use of the NWS Training Center to be NOAA-wide**
- **C. Fully utilize leadership programs**
- **D. Take advantage of rotational assignments**
- **E. Use the NOAA Integrated Learning Management System (LMS), including E-learning at NOAA**
- **F. Develop University/NOAA Education Programs (e.g., environmental and social science ethics).**

D. Retention

With the increased costs and difficulties associated with recruiting qualified employees, coupled with the rapidly approaching wave of people becoming retirement-eligible, NOAA needs to devote serious efforts to keeping good people as long as possible. The PRT and NOAA employees highlighted the importance of developing and maintaining a workplace and culture that recognizes and fulfills employees needs, both personal and professional.

65. The PRT recommends NOAA improve our retention of talent and experience, standardizing and communicating practices and protocols on use of retention "tools," including :

- **A. Enhanced Awards Program**
  - **Take advantage of all recognition and awards available**
  - **Award cross-organizational teams**
  - **Institute peer award (Budget Office model)**
  - **Performance increases/bonuses**
- **B. Student loan repayment program**
- **C. Retention bonuses**
- **D. Expand Demonstration Program (e.g., pay banding)**
- **E. Increase career path opportunities toward generalist job categories**
- **F. Recognize that other factors besides pay can improve retention**
- **G. Encourage the development of an employee worklife organization, similar to the NIH recreation association, with the goal of providing employee services similar to those available to employees in Silver Spring (e.g., childcare, fitness center, work life center, etc.).**

E. Succession

NOAA's management and workforce are not alone in their concern for who will fill the shoes of those retiring employees with long corporate memories and unique skills and knowledge—all levels of Government are beginning to worry. NOAA needs do its planning now and address this issue proactively, given our broad scientific and technical requirements. The PRT also looked at the need for new leaders and managers, as well as scientists and technicians, to replace the pool of experience that may soon be lost.

66. PRT recommends NOAA make improvements in planning for workforce succession, including:

A. Recognize and endorse the NOAA Leadership Competencies Development Program as one vehicle for developing corporate orientation for future senior managers.
B. Expand current programs (e.g., Excellence in Government, Sea Grant, Presidential Management Interns, Federal Executive Institute)
C. Establish the mentoring program
D. Develop rotational assignments
E. Expand competency development
F. Develop a legacy training program for specialized jobs
G. Take greater advantage of the university assignment program

F. Rotational Assignments

The PRT recognizes the importance that experience in different parts of NOAA can play in the development of NOAA employees at all levels—NOAA Corps Officers, Senior Executives, and within the General Service ranks—and in developing a corporate view of NOAA versus "stove-piped" perspectives. Currently, only the NOAA Corps implements mandatory rotational assignments. Consequently, many NOAA Corps officers have broader experience in various line offices and NOAA programs than their non-uniformed peers. The PRT felt that a similar voluntary program among the Senior Executives and the General Schedule employees might be useful as a means to build employee skills as well as promote a corporate culture. As such,

67. The PRT recommends that the voluntary NOS Rotational Assignment Program (RAP) be implemented throughout NOAA.

68. The PRT recommends development of future leaders and implementation of rotational assignments for current NOAA Senior Executives as follows:
A. Establish a voluntary SES Rotational Assignment Program (RAP), creating a pool of volunteers for rotational assignments and/or two-year details. NOAA should further develop its executives and promote corporate culture through the RAP and Intergovernmental Personnel Agreements.
B. In the future (for newly hired senior executives) NOAA should institute mandatory, periodic rotations within the same commuting area.
C. NOAA should implement periodic opportunities for senior executives to network, understand and learn from each others' experiences, strengths, and interests, establishing a well-connected pool of NOAA executives.

Through expansion of periodic rotations to different programs and line offices, at the field and headquarters, a workforce with improved skills and enhanced corporate culture could be achieved.

Chapter 6
Conclusion

The NOAA Program Review was an ambitious and challenging undertaking. The PRT analyzed as much of the Agency as possible, supported by the thoughtful and knowledgeable input of the NOAA workforce, documentation of issues and background information on the topics considered. The PRT identified, and often confirmed, NOAA's strengths as well as areas for improvement. This 90 day review has highlighted the importance of NOAA's current missions, the opportunities for the future and the outstanding capabilities of the NOAA team.

The PRT examined and debated the questions outlined by our Administrator, and suggested a number of mission, structure, and business practice changes. Through strategic change, NOAA can meet the challenges of today and position itself for the future to remain focused on its science, service, and stewardship to the American people and, in fact, the world. While change may be difficult, progress cannot be made without it. NOAA must address the increasing dependence of the U.S. and global economy on sound environmental data, the vulnerability of society to environmental change, and the pressures on the marine and coastal environment caused by human growth and resource development.

NOAA must continue to build its programs based on constituent input. This is a significant strength of the organization, and a recent employee survey noted that 91% of NOAA employees have a good understanding of who our customers are and 81% believe that we use customer suggestions to improve the quality of NOAA products and services. In fact, a number of PRT recommendations are built upon past constituent recommendations and input.

The PRT effort resulted in executives from all parts of NOAA coming together to propose changes to build a more cohesive and effective organization. The PRT process itself again showed that NOAA's greatest asset is its people, and that the organization benefits from having leadership at all levels.

This PRT report proposes a bold vision for a future NOAA by 2007, organized along functional lines. It proposes a number of alignments and business practice improvements in the near term. The report spends considerable attention to enabling functions that underpin the agency, such as grants management and facilities. The PRT report recommendations are offered to the Administrator as a means to help build a more effective, corporate NOAA that stands ready to meet the challenges and opportunities of the 21st century.